Serial Number: 10/671,324

Filing Date: September 25, 2003

Title: SYSTEM, METHOD, AND APPARATUS FOR FAST QUANTIZATION IN PERCEPTUAL AUDIO CODERS

REMARKS

Applicant's have carefully reviewed and considered the Office Action mailed on September 25, 2003, and the references cited therewith.

Claims 1, 3, 5, 11, 12, 17, 20, 21, 25, 28, and 31 are amended, claim 2 is canceled; as a result, claims 1 and 3-33 are now pending in this application.

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Priority

This application claims priority to Indian application 64/MAS/2003 filed January 23, 2003. The priority date was not considered as no certified copy of the priority document was submitted at the time of filing the application.

To overcome the above objection a certified copy of the above priority document is being submitted along with this response.

Claims Objections

Claim 28 was objected to because of the following informalities: The word "the" should be placed between the words "that" and "difference" on line 5 of the claim.

Applicant's have amended claim 28 accordingly. Reconsideration of claim 28 is respectfully solicited.

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35 USC\$112 Rejection of the Claims

Claim 5 was rejected under 35 USC § 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between steps.

Applicant's have amended claim 5 in accordance with the Examiner's recommendation.

Applicant's, respectfully request allowance of claim 5.

35 USC\$102 Rejection of the Claims

Claims 1, 5, 6, 17, 21-23, 25, 26, 31, and 32 were rejected under 35 USC § 102(b) as being anticipated by Davidson et al. (U.S. Patent 6,246,345).

Davidson et al. discloses various embodiments for shaping of quantization noise by using a masking threshold obtained using a psychoacoustic model, i.e., using a perceptual model, as shown in for example in FIGS. 1 and 3 and in col. 5 and lines 18-21.

In contrast, amended claims 1, 5, 12, 17, 21, 25, 28 and 31 recite shaping the quantization noise by assigning quantization precision based on both band energy ratios and SMRs. This technique is not disclosed in Davidson et al.

Amended claim 3 and claims 4, 6-10, 13-16, 18-19, 22-24, 26-27, 29-30, and 32-33 depend directly or indirectly from independent claims 1, 5, 12, 17, 25, 28, and 31, respectively, so they should also be allowable for the reasons presented above.

For the above reasons, claims 1, 5, 12, 17, 25, 28, and 31 should be found allowable over Davidson et al., and Applicant's respectfully request that the rejection of claims 1, 5, 12, 17, 25, 28, and 31 as anticipated by Davidson et al. should be withdrawn.

Claims 2-4, 7-10, 12-15, 18, 19, 24, 27-30, and 33 were rejected under 35 USC § 103(a) as being unpatentable Davidson et al. (U.S. Patent 6,246,345).

35 USC\$103 Rejection of the Claims

Applicant's respectfully traverse the single-reference rejection.

Examiner stated that "In order to estimate a bit allocation, it is obvious band energy ratios and signal-masking ratios must be considered in order to provide the best allocation to enable a perceived higher quality". Applicant's remark, FIGS. 1 and 3 and in col. 5, lines 18-21 of Davidson et al. describe estimating bit allocation using masking threshold computed using a perceptual model.

Applicant's respectfully assert that Davidson et al. fails to support a *prima facie* case of obviousness because, as mentioned above, the cited reference fails to teach or suggest all of the elements of Applicants' invention, such as shaping quantization noise by assigning quantization precision based on both band energy ratios and SMRs. Moreover, Applicant's consider additional elements and limitations of claims 3-4, 7-10, 12-15, 18-19, 24, 27-30 and 33 to further distinguish over the cited reference, and Applicant's reserves the right to present arguments to this effect at a later date.

For the above reasons, claims 3-4, 7-10, 12-15, 18-19, 24, 27-30 and 33 should be found to be allowable over Davidson et al. and Applicant's respectfully request that the rejection of claims 3-4, 7-10, 12-15, 18-19, 24, 27-30 and 33 as unpantetable over Davidson et al. should be withdrawn.

As described above, if the Examiner is using personal knowledge or is taking Official Notice of the elements of claims 3-4, 7-10, 12-15, 18-19, 24, 27-30 and 33 which are not found in the Davidson et al., reference, Applicant's respectfully object and respectfully request that the

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Examiner either provide a reference or references which describe such missing elements pursuant to M.P.E.P § 2144.03, or submit an affidavit as required by 377 C.F.R. § 1.104(d)(2).

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Allowable Subject Matter

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Claims 11 and 20 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 11 and 20 have been amended accordingly. Thus, claims 11 and 20 should be found allowable and such action is respectfully requested.

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Conclusion

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Applicant's respectfully submit that the claims 1, 3-33 are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney (603-888-7958) to facilitate prosecution of this application.

Respectfully submitted,

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By their Representatives,

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Date June 11, 2007

Зу <u>____</u>/

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